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AN EXPERIMENTAL CURRICULUM IN VOCATIONAL AGRICULTURE, JANESVILLE, WISCONSIN. NEW DIMENSIONS IN VOCATIONAL AGRICULTURE REPORT NUMBER 1.

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The purpose of the pilot program was to develop and test a new structure for vocational agriculture and thus meet the needs of a wider range of students. The curriculum was developed around 16 different agricultural subjects offered in alternate years on a semester basis. Agricultural engineering and agricultural survey were offered each semester each year. An analysis of the first year's operation showed the following: (1) Total enrollment remained about the same, (2) Poultry and sheep courses were dropped because of low enrollment, (3) Nearly 40 percent of the students were nonfarm, (4) Few students of below-average ability were attracted, particularly in agricultural engineering and farm management, (5) Some withdrew during the second semester, but few because of lack of interest, (6) Nearly all new agriculture students attracted to vocational agriculture were nonfarm, (7) Dairy science and horticulture attracted the most new students, (8) Supervised farming and work experience programs were carried by the majority of students, and (9) No serious administrative problems occurred. Many of the original objectives were accomplished. New students were reached, and quality was maintained. Lack of sufficient instructor preparation time was a limiting factor. Texts and references are listed for each specialized course. (JM)

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New Dimensions In Vocational Agriculture Report Number 1

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AN EXPERIMENTAL CURRICULUM IN VOCATIONAL AGRICULTURE, JANESVILLE, WISCONSIN

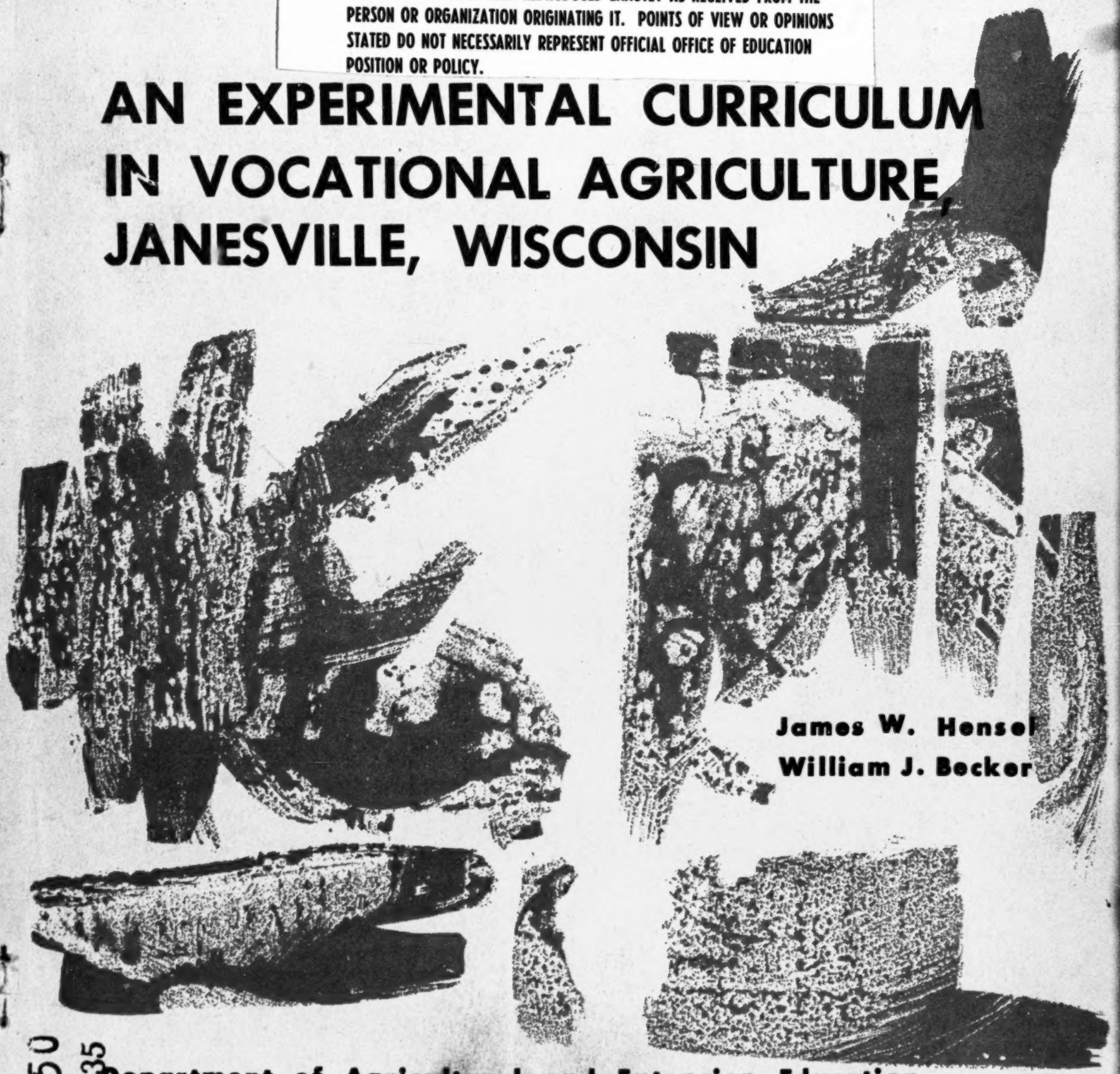

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TABLE OF CONTENTS

CHAPTER		PAGE
I	INTRODUCTION	1
II	GENERAL BACKGROUND FOR EXPERIMENTAL PROGRAMS OF VOCATIONAL AGRICULTURE IN WISCONSIN	3
	Projected Research Plans	3
	Guidelines for Experimental Programs	4
III	THE JANESVILLE, WISCONSIN EXPERIMENTAL PROGRAM	5
	Background	5
	Objectives of the Janesville Pilot Program	7
	Justification for the Experimental Program	8
	The Experimental Curriculum Design	9
	Agricultural Survey	12
	Individual Counseling	12
	Farming Programs	14
	Work Experience Programs	14
	Procedures Used	15
IV	EVALUATION OF THE JANESVILLE EXPERIMENTAL PROGRAM	16
	Vocational Agriculture Enrollment	16
	Student Characteristics by Subject	19
	Students Enrolled First Semester Only	22
	Students Enrolled for the First Time	24
	Administrative Problems	27
	Examples of Work Experience Programs	30
V	SUMMARY	34
VI	CONCLUSIONS & RECOMMENDATIONS	36
	APPENDIX	38
	BIBLIOGRAPHY	40

LIST OF TABLES

TABLE		PAGE
I	Janesville High School Vocational Agriculture Curriculum Curriculum	11
II	Content For Agricultural Survey I and II	13
III	Janesville Vocational Agriculture Department Enrollment 1963-64	16
IV	Janesville Vocational Agriculture Department Enrollment 1962-63	17
V	Enrollment by Subject Area	18
VI	First Semester Enrollment by Grade Level & Home	18
VII	Senond Semester Enrollment by Grade Level and Home	19
VIII	Class Enrollment by Ability and Home Background	20
IX	Students Who Did Not Continue an Agricultural Subject in the Second Semester	23
X	Reasons for Students Dropping Agricultural Subjects at the End of the First Semester	24
XI	Characteristics of Students Enrolling in an Agriculture Class for the First Time in 1963-64	25
XII	Subject Pattern for Students Enrolling in Agriculture for the First Time	26
XIII	Enrollment Sequence by Subject and Home Background	27

CHAPTER I

INTRODUCTION

This report has been designed with a twofold purpose in mind: (1) to present to the reader a general background for new dimensions in vocational agriculture programs in Wisconsin and (2) to present the first of a series of reports concerning pilot programs and research studies dealing with the nature and direction of vocational agriculture in Wisconsin.

The pilot study conducted in the Janesville High School was one of several studies now underway in Wisconsin and later reports will attempt to present and evaluate each program as they develop. This study should also be viewed as a preliminary study of the vocational agriculture curriculum and is not meant to be a refined statistical report. Later reports on the Janesville and other pilot programs are planned to include evaluations of this nature.

To keep abreast of the changing nature of agriculture, most educators recognize that the curriculum within the high school must be altered. "To train present and prospective farmers for proficiency in farming"[1] should no longer be the primary aim of vocational education in agriculture. In 1963, Congress[2] took action on legislation dealing

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[1] Educational Objectives in Vocational Agriculture. U. S. Department of Health, Education, and Welfare, Office of Education. Vocation-Division Monograph No. 21. Revised 1955.

[2] Congressional Record, Vol. 109, 1963. Public Law 88-210. 88th Congress, H. R. 4955. December 18, 1963.

with vocational education and in Section 10. (b) stated, "any amounts allotted (or apportioned) under such titles, Act, or Acts for agriculture may be used for vocational education in any occupation involving knowledge and skills in agricultural subjects, whether or not such occupation involves work of the farm or of the farm home, and such education may be provided without directed or supervised practice on a farm".

However, before sweeping changes can be initiated in an educational program, definite quidelines and direction must be established. Thoughtful planning along with experimental research should be undertaken in order to establish certain objectives for the future. It is in this context that the reader should view this preliminary report of the experimental or pilot program now underway in Janesville, Wisconsin.

CHAPTER II

GENERAL BACKGROUND FOR EXPERIMENTAL PROGRAMS OF VOCATIONAL AGRICULTURE IN WISCONSIN

Projected Research Plans

Within the next few years, several schools within the state of Wisconsin will be utilized as experimental or pilot centers in order to test certain theories concerning the most appropriate curriculum for vocational education in agriculture. The existing programs of vocational agriculture within each pilot center will be altered to meet specific community needs and certain measurements will be attempted to determine the effectiveness of the experimental curriculum.

Prior to the initiation of a pilot program in a local school, certain quidelines must be established. The teacher of vocational agriculture must first of all be more than willing to spend additional hours of work in developing and conducting the new program. He must be a teacher of above average ability and have the initiative and vision necessary for an experimental approach to new problems. The local school administrator and other personnel within the school system must also be willing to assist in the planning and evaluation of an experimental program. Close coordination is essential between the local school and staff members at the University of Wisconsin, the State Board of Vocational and Adult Education and the State Department of Public Instruction.

The experimental programs should be tested under close supervision and efforts made to maintain a stable or normal condition as far as the

learning activities of the students are concerned. As in any experimental work, scientific controls must be utilized to insure reliable results.

Guidelines For Experimental Programs

The purpose of an experimental program is to provide a systematic basis through which program improvements may be brought about in agricultural education. The experimental programs in Wisconsin have been planned to provide new approaches and offer tested recommendations for the improvement of vocational agriculture. As outlined in a recent Research Coordination Conference Report[1] "A pilot program is a planned activity for testing a new idea in a realistic situation. There are four distinct steps in a pilot program. Each step is a different phase in the development or adoption of an innovation. Briefly the four steps in a pilot program are:

1. Identifying the new ideas and concepts.
2. Designing ideas into workable educational programs of action.
3. Evaluating through field testing.
4. Disseminating ideas which have proven successful."

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[1]Report of Second Research Coordination Conference on Agricultural Occupation. Sponsored by the National Center for Advanced Study and Research in Agricultural Education. The Ohio State University, Columbus. January, 1964. p. 45.

CHAPTER III

THE JANESVILLE, WISCONSIN EXPERIMENTAL PROGRAM

Background

Early in the fall of 1962, William Becker, vocational agriculture instructor in the Janesville Wisconsin Senior High School proposed a new concept in the curriculum structure in Agriculture. After consulting with staff members at the University of Wisconsin, a curriculum was designed and steps were taken to initiate it as an experimental program. Supervisory staff members in the Rural Division, State Board of Vocational and Adult Education agreed to cooperate and encouraged further study concerning the feasibility of the new curriculum as a part of the vocational agriculture curriculum in Janesville.

The Janesville High School was viewed as an ideal location for a pilot study as it represented a large high school in an industrial center, which was surrounded by productive farm land. The Janesville High School had an enrollment of 2,453 students in the fall of 1962 with the largest proportion of these coming from within the city limits. The vocational agriculture department was maintaining an enrollment between 70-80 students even though a large rural portion of the Janesville school district had reorganized with surrounding school districts and no longer sent students to Janesville.

Janesville is the county seat of Rock County Wisconsin and has a population of 35,164. In recent years, the city has grown rapidly with the expansion of many large industries. Rock County has been one

of the states leading agricultural counties, ranking among the top in such items as: acres of cropland harvested, total cash farm income, total income from livestock and livestock products, number of hogs, sheep and chickens, and acres of corn, soybeans and tobacco.

The facilities of the vocational agriculture department were nearly ideal. The department was located in the vocational wing of the new high school building. The classroon was connected to the agricultural engineering shop with the laboratory and instructors office dividing the facilities.

After consideration of the various facets of the experimental program idea, a meeting was arranged to formalize the plan. In February 1963, a meeting was held with William Becker, vocational agriculture instructor; Fred R. Holt, superintendent; Dr. Robb Shanks, director of instruction; and Dr. James Hensel, University of Wisconsin, making final plans to operationalize the program. Certain basic guidelines were established and an agreement was reached with the school concerning the basic philosophy of the revised curriculum.

In March, 1963, students were given an outline of the proposed curriculum during pre-registration. Several announcements were made to the students concerning the program and the instructor found it necessary to hold individual conferences with nearly every student prior to formal registration. During the summer months of 1963, Mr. Becker explained the curriculum to parents and again to the prospective students. The experimental program was initiated with the opening of school in the fall of 1963.

Objectives of the Janesville Pilot Program

The primary purpose of the Janesville pilot program was to develop and test a new structure around which a modern curriculum of vocational agriculture could be constructed.

General Objectives

1. To develop a high school vocational agriculture program which would meet the needs of a wider range of students and serve individuals who:

   a. Plan to farm and particularly those who are faced with greater specialization in farming.

   b. Desire a general knowledge of agriculture but do not intend to farm.

   c. Are interested in agriculturally related occupations, especially students from city and rural non farm homes.

   d. Plan to continue their education in agriculture beyond the high school.

2. To offer a flexible curricular pattern which would provide an opportunity for students to study an agricultural area in depth.

3. To maintain high academic standards which would best prepare the student for a future in agriculture.

4. To provide a challenging agricultural curriculum for the student who selects only one semester and a solid vocational background for the student who completes a four year program.

5. To allow for student grouping by interest patterns rather than by age or grade level.

6. To add systematic instruction in the sciences of agriculture and yet maintain the vocational aspects of the program.

Specific Objectives

1. To determine the characteristics of students who enrolled in each of the agricultural subjects.

2. To determine the effect of the specialization curriculum on the total enrollment in vocational agriculture as compared to the previous year.

3. To determine the characteristics of students who enrolled in an agricultural subject during the first semester and did not continue into the second semester.

4. To determine the characteristics of students who enrolled in the vocational agriculture program for the first time under the new curriculum.

5. To explore some of the ramifications of a supervised experienced program in an agriculturally related occupation in lieu of the traditional supervised farming program.

6. To determine whether certain administrative problems would affect the operation of the pilot curriculum.

Justification for the Experimental Program

The experimental program was designed to meet the agricultural needs and interests of a wide range of high school students. An increasing percentage of the high school students were from city and rural non farm homes as several large blocks of farm land were lost to

school district reorganizations in surrounding areas. In addition, farms in the area were tending to get larger and therefore fewer full time farm families lived in the school district. Remaining farms were also moving toward greater enterprise specialization making much of the traditional vocational agriculture program unattractive to the students.

Therefore, as the percentage of urban and rural non farm students increased, the instructor found he had fewer boys eligible for the regular vocational agriculture program. It was felt that a new approach must be made to the problem as there was still a need for training in agriculture in the Janesville area.

The Experimental Curriculum Design

The curriculum was organized around sixteen different agricultural subjects which lasted for one sementer. The classes were one hour in length and the instructor taught five agricultural subjects each day. The subjects were offered on a two-year rotation plan thereby affording the student with an opportunity to enroll in a particular course every other year. Thus, by offering five subjects per semester over a two year period, it would be possible to offer twenty different agricultural subjects. In the Janesville experiment, only sixteen subjects were offered as two subjects were carried into the second semester and repeated each year. These were the Agricultural Survey course for freshman and the two semesters of agricultural engineering.

The experimental curriculum was planned to permit students, regard-

less of their home background, to take one to eight or more semesters of agricultural subjects and concentrate on those areas which interested them. A city student interested in conservation, for example, may study soils, crops, and conservation and avoid the livestock and marketing units. A non-farm student interested in feeds, fertilizers or mechanics and planned to enter a related occupation could take the semester units he felt he needed. He was not forced by the structure of the curriculum to sit through phases of agriculture which were not appropriate to his occupational goal.

It should be noted that within each subject, an attempt was made to cover considerably more than the usual production techniques. The subject matter ranged from a study of scientific agricultural concepts to the economics of marketing. Since the subject covered an entire semester, it was possible to study each area more thoroughly and cover material which had previously thought to be too difficult for high school agriculture students.

As illustrated in Table 1, the student had a wide choice of subjects from which to choose after completing the freshman year. Again it was emphasized that there were no required sequences from one semester to the next. For example, a student might take beef science the first semester and crop science the second, depending upon his class schedule for the remainder of his high school classes. There was no set pattern for a student, except that it was hoped he would select courses which would meet his needs and interests.

TABLE 1

JANESVILLE HIGH SCHOOL VOCATIONAL AGRICULTURE CURRICULUM

EVEN NUMBERED YEARS (1964, 1966, 1968)

Class Period	Grade	1st Semester	2nd Semester
1	9	Agricultural Survey I	Agricultural Survey.II
2	10-11-12	Dairy Science I	Dairy Science II
3	10-11-12	Sheep Science	Poultry Science
4	10-11-12	Ag. Engineering I	Ag. Engineering II
5	-11-12	Farm Management	Horticulture

ODD NUMBERED YEARS (1965, 1967, 1969)

Class Period	Grade	1st Semester	2nd Semester
1	9	Agricultural Survey I	Agricultural Survey II
2	10-11-12	Beef Science	Swine Science
3	10-11-12	Soil Science	Crop Science
4	10-11-12	Ag. Engineering I	Ag. Engineering II
5	-11-12	Ag. Economics	Conservation

Note: Assume you are a freshman in the fall of 1964. You would be required to take Agricultural Survey both semesters the first year. The next year, you would select from courses offered for the odd numbered years (1965). Then as a junior in 1966, you would select courses offered for the even numbered years. Finally, as a senior, in 1967, you would be allowed to select from the wide range offered under the odd numbered year schedule.

Agricultural Survey

A full year of agricultural survey was required for each freshman student. The basic purpose of the course was to show the student the opportunities and occupations available as a part of the field of agriculture.

The two semester course covered opportunities as a part of specific technical areas and explored the occupations within each of the units. A more complete listing of the units covered in agricultural survey is given in Table II.

Individual Counseling

In addition to the selection of a subject from each semester offering, each student was counseled individually at school or in his home in the presence of his parents prior to enrolling in the course. The counselling was done by the vocational agriculture instructor and he was given the final authority to accept or reject any student for participation in the program. Further regulations were spelled out to each student as follows:

1. A farming program or a supervised work experience giving practical training in the course studied was required.

2. One course of agriculture per semester was the maximum, however, a second agricultural subject could be carried as a fifth subject with the approval of the instructor.

3. Girls were permitted to enroll in all but the agricultural engineering classes.

TABLE II

CONTENT FOR AGRICULTURAL SURVEY I AND II

Unit	Approximate Length in weeks
A. Understanding Vocational Agriculture	3
1. FFA	
2. Farming or experience programs	
B. Dairy Science	8
1. Testing & beginning management	
2. Occupations and opportunities	
C. Meat and Animal Science	8
1. Beef (3); Swine (3); Sheep (2)	
2. Occupations and opportunities	
D. Crop & Soil Science	8
1. Corn (2); Legumes (2); Small grain (1); Soils & fertilizer (3)	
2. Occupations and opportunities	
E. Agricultural Engineering	2
1. Basic skills with hand tools	
2. Occupations and opportunities	
F. Conservation	3
1. Forestry, soil, water, wildlife	
2. Occupations and opportunities	
G. Horticulture	3
1. Fruits, gardening, landscaping	
2. Occupations and opportunities	
H. Agricultural Economics	3
1. Farm records	
2. Occupations and opportunities	
Total	38

Farming Programs

Additional time was made available during the freshman year for the study and development of traditional farming programs. These programs were to be expanded during succeeding years as expected under the traditional program of vocational agriculture. Any student taking a unit during the 10-11-12 years would need to develop a farming program compatible with the unit studied in addition to the expansion of the freshman program. A farming program was viewed as providing experiences on the home farm or cooperating farm, through which the student had an opportunity to develop a deeper understanding of the practices involved in the management and improvement of the farm.

Work Experience Programs

A non-farm student was enrolled in an agricultural subject provided he made specific arrangements with the instructor for a suitable work experience program. The work experience was defined as a program which placed a student in a well managed business operation, including farming, where he "learned by participating" in work activities which provided a realistic visualization of how the business functioned. The program was designed as a learning experience and was not a program of mere labor. A work experience program could be developed for students who wanted to prepare for off the farm agricultural occupations as well as for on the farm occupations. The experience was specifically planned in the area in which the student was most interested. In other words, any experience that developed a better understanding

and developed the students' abilities to increase his effectiveness in his vocational choice was considered as a work experience. Examples of work experiences which were felt to have definite possibilities in the pilot program were planned activities with a veterinarian, machinery dealer, feed mill manager, fertilizer specialist or soil conservation service men.

Procedures Used

Information concerning the experimental program was gathered from school records, a short questionnaire administered to all students enrolled in the vocational agriculture program and from data supplied by the instructor. Observations and discussions by the vocational agriculture instructor have also been used for portions of the descriptive analysis.

CHAPTER IV

EVALUATION OF THE JANESVILLE EXPERIMENTAL PROGRAM

Vocational Agriculture Enrollment

One of the first objectives of the evaluation of the pilot program involved the analysis of the total departmental enrollment. Data illustrating the 1963-1964 departmental enrollment by grade and semester are shown in Table III.

TABLE III

JANESVILLE VOCATIONAL AGRICULTURE DEPARTMENT ENROLLMENT 1963-64

Grade	Semester I	Semester II
9	18	18
10	14	13
11	24	23
12	18	16
Total	74	70

In order to establish a point from which one might judge the enrollment figures during the pilot year, it was necessary to examine tne departmental records of the preceding year. Table IV was included to show the enrollment in vocational agriculture classes the previous year, 1962-1963.

TABLE IV

JANESVILLE VOCATIONAL AGRICULTURE DEPARTMENT ENROLLMENT, 1962-63

Grade	Semester I	Semester II
9	15	12
10	24	23
11	18	16
12	20	19
Total	77	70

Comparing the number of students enrolled in 1963-1964 under the experimental curriculum with those enrolled the previous year, very few differences existed between the two years. It was felt that the initiation of the experimental program had little or no effect on the total department enrollment.

Data in Table V show the class size by subject and semester. It should be noted however, that the Dairy Science classes were divided into two sections each semester, giving a total of five classes taught each semester.

Two sections of Dairy Science were offered each semester as the number of students was quite large. The courses in poultry and sheep science did not draw a large enough number of interested students to justify the course and were dropped. An attempt was made to shift students into two ability groups in the dairy science course. This was not entirely possible at the time the decision was made but it was felt to be a worth while goal for the future.

TABLE V

ENROLLMENT BY SUBJECT AREA

Subject	Semester I	Semester II
Agricultural Survey	18	18
Dairy Science		
Group 1	18	9
Group 2	15	13
Total	33	22
Agricultural Engineering	12	19
Farm Management	16	--
Horticulture	--	17

Data in Tables VI and VII indicate that approximately forty percent of the enrollment in the vocational agriculture department for the 1963-1964 school year were from the city or rural non farm homes. Approximately forty-two percent of the students were from full time farm homes with the remaining eighteen percent coming from homes where the father worked as a part time farmer.

TABLE VI

FIRST SEMESTER ENROLLMENT BY GRADE LEVEL & HOME

Grade	City	Rural Non-Farm	Part-Time Farm	Part-Time Farm (i.e. Full)	Total
9	1	6	3	8	18
10	7	2	1	4	14
11	2	5	7	10	24
12	3	3	2	10	18
Total	13	16	13	32	74
%	17.6	21.6	17.6	43.2	100

TABLE VII

SECOND SEMESTER ENROLLMENT BY GRADE LEVEL AND HOME

Grade	City	Rural Non-Farm	Part-Time Farm	Full-Time Farm	Total
9	1	6	3	8	18
10	7	2	1	3	13
11	4	3	7	9	23
12	1	4	2	9	16
Total	13	15	13	29	70
%	18.6	21.4	18.6	41.4	100

Student Characteristics by Subject

The first specific objective of this study was to determine the characteristics of students enrolled in each of the various agricultural subjects. Table VIII shows the ability level and home background of the students enrolled in each of the various subjects offered during the 1963-1964 school year. It should be noted that there was no pressure placed upon a student to enroll in a particular subject and they were counselled to enroll only in subjects which interested them.

TABLE VIII

CLASS ENROLLMENT BY ABILITY AND HOME BACKGROUND

Ability Level	City	Rural Non-Farm	Part-Time Farm	Full-Time Farm	Total	%
AG SURVEY						
Below Average	0	1	1	0	2	11.1
Average	1	5	2	5	13	72.2
Above Average	0	0	0	3	3	16.7
Total	1	6	3	8	18	
%	5.6	33.3	16.7	44.4		100.0
DAIRY SCIENCE I						
Below Average	2	3	1	1	7	21.2
Average	4	3	2	10	19	57.6
Above Average	1	0	1	4	6	18.2
No Information	1					3.0
Total	8	6	4	15	33	
%	24.2	18.2	12.1	45.5		100.0
DAIRY SCIENCE II						
Below Average	1	1	1	1	4	18.2
Average	2	2	2	5	11	50.0
Above Average	2	0	1	4	7	31.8
Total	5	3	4	10	22	
%	22.7	13.6	18.2	45.5		100.0
AG ENGINEERING I						
Below Average	0	0	0	0	0	0
Average	3	2	2	2	9	75.0
Above Average	0	1	0	2	3	25.0
Total	3	3	2	4	12	
%	25.0	25.0	16.7	33.3		100.0
AG ENGINEERING II						
Below Average	1	0	1	0	2	10.5
Average	1	2	2	5	10	52.7
Above Average	1	1	1	4	7	36.8
Total	3	3	4	9	19	
%	15.8	15.8	21.0	47.4		100.0

TABLE VIII CLASS ENROLLMENT BY ABILITY AND HOME BACKGROUND (CONTINUED)

Ability Level	City	Rural Non-Farm	Part-Time Farm	Full-Time Farm	Total	%
FARM MANAGEMENT						
Below Average	0	0	0	0	0	0
Average	0	2	3	4	9	56.2
Above Average	0	0	2	5	7	43.8
Total	0	2	5	9	16	
%	0	12.5	31.3	56.2		100.0
HORTICULTURE						
Below Average	1	0	0	0	1	5.9
Average	2	4	2	4	12	70.6
Above Average	1	0	2	1	4	23.5
Total	4	4	4	5	17	
%	23.5	23.5	23.5	29.5		100.0

Ability levels of the students were determined through the utilization of I.Q. data. Student I.Q. scores were obtained from school records and those who fell within the 70-89 range were classified as below average. The average category was arbitrarily assigned to students within the 90-109 range and students scoring 110 or above were considered as above average for this study.

Observation of each subject and the characteristics of students enrolled revealed the following:

1. Nearly thirty-nine per cent of the freshman students were from city or rural non-farm homes.

2. Seventy-two percent of the freshman survey class fell within the average range and more students were above average than below.

3. Forty-two percent of the students in Dairy Science I were from city or rural non-farm homes.

4. Nineteen of the thirty-three students in Dairy Science I were within the average range of mental ability whereas seven were below average and six were above.

5. The percentage of students from full time farms remained the same from Dairy Science I to the second semester of Dairy Science whereas fewer city and rural non-farm boys enrolled in the second semester of Dairy Science.

6. There were no students from the city or from the below average ability range enrolled in farm management. Nearly forty-four percent of the students enrolled in farm management were above average ability students.

7. Ag Engineering I and II did not attract the student of below average ability.

8. A senior girl from a rural-nonfarm home enrolled in the farm management and the horticulture classes.

9. Forty-seven percent of the students enrolled in horticulture were from city or rural non farm homes.

10. The experimental curriculum did not attract the below average ability student. Only nine of seventy-four students enrolled in the first semester were in the below average category. There were nine students with less than average ability enrolled in the second semester.

Students Enrolled First Semester Only

Objective three was to determine the characteristics of students who enrolled in an agricultural subject during the first semester and

did not continue into the second semester. These data are presented in Table IX.

TABLE IX

STUDENTS WHO DID NOT CONTINUE AN AGRICULTURAL SUBJECT IN THE SECOND SEMESTER

	City	Rural Non-Farm	Part-Time Farm	Full-Time Farm	Total
Below Average	1	2	0	0	3
Average	5	0	0	1	6
Above Average	0	0	0	2	2
No Information	1	0	0	0	1
Total	7	2	0	3	12

A total of twelve students dropped out of vocational agriculture at the close of the first semester. Seven of the twelve dropouts were from city homes and two were from rural non-farm. None of the eight students from city and rural non farm homes with available I.Q. scores were above average in ability. The next question which was usually asked was "Why did these boys not continue into the second semester?" An answer to this question has been tabulated and included in Table X.

Two of the students from full time farm homes felt they could not benefit from the subjects offered during the second semester. Four city and two rural non farm students were dropped by the instructor, failed the first semester agricultural subject or dropped from high school. Two students moved out of the Janesville school district and two city students graduated at mid-semester.

TABLE X

REASONS FOR STUDENTS DROPPING AGRICULTURAL SUBJECTS AT THE END OF THE FIRST SEMESTER

Reasons given	City	Rural Non-Farm	Part-Time Farm	Full-Time Farm	Total
No courses he wanted	0	0	0	2	2
Failed, dropped by Instr., dropped from H. S.	4	2	0	0	6
Moved from district	1	0	0	1	2
Graduated in January	2	0	0	0	2
Total	7	2	0	3	12

It might be concluded that the introduction of the specialization curriculum was responsible for only two of the twelve students withdrawing from the agriculture classroom. It might be noted also, that following an interview with the vocational agriculture instructor one student planned to enroll at the University of Wisconsin in the College of Agriculture and the other student planned to enroll in beef science next fall. His primary interests were in beef cattle and he didn't want to spend time studying Dairy.

Students Enrolled for the First Time

One of the key objectives of this study was to determine the characteristics of the students who enrolled in the vocational agriculture program for the first time under the experimental structure. A study of data in Table XI reveals eighteen of the nineteen students who elected an agricultural subject for the first time were from city or rural non-farm homes.

TABLE XI

CHARACTERISTICS OF STUDENTS ENROLLING IN AN AGRICULTURE CLASS FOR THE FIRST TIME IN 1963-64

	City	Rural Non-Farm	Part-Time Farm	Full-Time Farm	Total
Below Average	4	0	0	0	4
Average	7	3	0	1	11
Above Average	3	0	0	0	3
No Information	1	0	0	0	1
Total	15	3	0	1	19

Since such a large percentage of the students enrolling in an agricultural subject for the first time were from city and rural non farm homes, a question arose as to which courses had attracted these students. Data in Table XII illustrate the subject enrollment by home background.

Dairy science was the most popular subject for students enrolling in agriculture for the first time in the fali of 1963. A total of eleven students registered during the first semester for their first introduction to agriculture. Of this total, ten were from city and rural non farm homes.

Horticulture seemed to draw the largest percentage of the new students during the second semester with eight students including one girl enrolled. Thirteen of the fourteen new students were from city and rural nonfarm homes. This total, however includes several students who had also attended the first semester of agriculture.

TABLE XII

SUBJECT PATTERN FOR STUDENTS ENROLLING IN AGRICULTURE FOR THE FIRST TIME

Subject	City and Rural Non-Farm	Full-Time Farm	Total*
SEMESTER I			
Dairy Science	7	1	8
Agricultural Engineering	2	0	2
Farm Management	1	0	1
Total	10	1	11
SEMESTER II			
Dairy Science	3	0	3
Agricultural Engineering	3	0	3
Horticulture	7	1	8
Total	13	1	14

*Note: Total adds to more than nineteen as several students enrolled for both semesters.

From data included in Table XIII the reader will realize there was some shifting of students and subject patterns at the close of the first semester. Five of the nineteen students taking agriculture for the first time dropped the subject at mid-semester. It should also be noted that eight students from city homes enrolled either in horticulture or agricultural engineering at the beginning of the second semester.

TABLE XIII

ENROLLMENT SEQUENCE BY SUBJECT AND HOME BACKGROUND

Subject	City and Rural Non-Farm	Full-Time Farm	Total
Enrolled Semester I but dropped out Semester II			
Dairy Science	3	0	3
Agricultural Engineering	2	0	2
Sub-Total	5	0	5
Enrolled Semester II for the first time			
Horticulture	5	0	5
Agricultural Engineering	3	0	3
Sub-Total	8	0	8
Sequence for students enrolling both semesters			
Dairy Science I & II	3	0	3
Farm Management & Horticulture	1	0	1
Dairy Science & Horticulture	1	1	2
Sub-Total	5	1	6
TOTAL ENROLLMENT	18	1	19

Administrative Problems

As in any school system, the introduction of a new curricular structure also introduces new administrative problems. Many of the problems can be worked out in advance of the initiation of the curriculum and others must be answered as the program develops. Each school system in the state of Wisconsin will need to solve many of the problems on an individual basis as solutions within one system might be

unworkable in another. Some of the administrative problems which were met in the Janesville school are listed here.

Textbooks

Since the curriculum was segmented or divided into semester units of agricultural science, it was necessary to locate textbooks which were also oriented toward a specific agricultural subject. Textbooks were readily available in Dairy Science, Sheep Science, Beef Science and Swine Science. However, difficulties were encountered as appropriate texts were sought for Horticulture and Agricultural Survey. The vocational agriculture instructor also had difficulty in selecting a suitable text for conservation which is to be offered in 1964-1965.

It was found that additional books were necessary to meet the needs of the new curriculum. The usual supply of books in an agriculture department would, in most cases, be found quite inadequate. It is also anticipated that the books might have a tendency to become obsolete before they are worn out as in most instances they will be used only every other year.

Scheduling

The problem of scheduling was solved in the Janesville system long before the curriculum was initiated. Close coordination with the director of instruction was essential. Janesville was also a large school with a wide range of subjects, both on a semester and yearly basis. There were also several sections of most courses which allowed students to select courses and hours which fit their schedule.

In addition, the students planning to change class hours at mid-semester were advised to block in a study hall during the first

semester to coincide with the agricultural subject desired in the second semester. Then all he needed to do at mid-semester was to exchange his study hall and agricultural subject hours.

Class Size

Prior to registration, the instructor and the administrator agreed that a minimum of six students would be necessary to offer a particular subject for the semester. On this basis, the poultry and sheep science courses were not offered during the 1963-1964 school year. However, the dairy science course attracted more students than could be handled adequately in one class. Therefore, it was decided to offer two sections of dairy science.

In general, the class size did not vary considerably from previous years. According to pre-registration choices, next year's enrollment will find approximately 18 freshmen enrolled in agricultural survey and about 21 students enrolled in each of the classes of beef science, soil science and agricultural engineering. The planned course in agricultural economics will not be offered as less than six students enrolled.

Farming and Experience Programs

It was found that the major problem in the area of developing farming and experience programs was that of instructor time. It was found that considerably more time was required to get a boy established in an experience program than was true of the farming programs. Several reasons have been hypothesized for this problem:

1. Employers in related occupations were not familiar with the objectives of the new program.

2. Very few jobs were available on an experience program basis for 14-16 year old students. As a result, the instructor took extra time to search the community and discuss the problems with possible employers.

3. Additional time was needed with the individual student contemplating an experience program to establish occupational objectives and to insure the educational and vocational aspects of the experience.

4. The experience program in vocational agriculture was a new idea and had to be explained to each person who became involved. The supervised farming program was an accepted fact as parents and community knew the objectives and requirements. The experience program had to be developed and "sold".

Examples of Work Experience Programs

Traditionally, vocational agriculture has based its strength on the farming programs of the students. With a larger percentage of the students in the Janesville vocational agriculture department coming from city and rural non farm homes, it was essential that experience programs be developed.

The work experience programs were designed to meet the vocational needs and interests of the non farm students in the specialized agricultural curriculum courses at the Janesville High School. The following case studies were selected as a sample of the experiences provided within the experimental program in the Janesville vocational agriculture department.

Kenny lived in an apartment in Janesville with little or no farm experience. His interests were in forestry and wildlife conservation. He enrolled in the Agricultural Survey course as a freshman and further plans were to take the Soils, Crops and Conservation semesters of vocational agriculture. His work experience for the past year consisted of spending time with the County Forester, County Soil Conservationist and the Game Warden. He made three written reports on their activities and his experiences with them. In addition, he made a collection of leaves, twigs, and woods to exhibit at the county fair.

Larry, another freshman, lived in a rural non farm home. His interests were in livestock. He was able to make arrangements to have a sow and litter project on a small neighboring farm and was allowed two acres of corn on this farm in exchange for his help during the summer.

There were nine non-farm boys enrolled in the Dairy Science course and four of these boys had never had any experience working on a dairy farm. Seven of these boys were placed on dairy farms for part time and/or full time employment for the summer. All of these boys spent at least one day with a county artifical inseminator and another day with a D.H.I.A. Fieldman. In addition, the non farm students enrolled in the Dairy Science course made the following arrangements:

Gary planned summer work helping paint and white wash farm buildings. Dean helped a local Surge dealer install and repair units on weekends and school holidays. Bob assisted his dad in building construction.

Another boy in the Dairy Science class was a good B classroom student, but had no work experience in agriculture this past year. Attempts are being made to find a good paying, part time, agricultural related occupation. His Dad is deceased and he has lived in town with his mother and two younger sisters. He needed income to help support the family and at present has a good paying job working in a clothing store. He could not afford to leave for a lower paying position. However, since he was not able to locate a suitable work experience by the end of the semester his grade was lowered to a C; which he understood and expected.

Lyle was a senior who enrolled in Agriculture for the first time, taking the Horticultural course. Part time work was found for him with Wisconsin Turf Equipment Company which sold lawn and garden equipment and supplies. He is presently employed there on a full time basis and is taking an active part in sales and services.

Dennis was a junior who enrolled in Horticulture as his first Agricultural course. This summer he is working on a large Rock County farm with a "show" farmstead, taking care of the lawns, shrubs, orchard and gardens along with other jobs on the farm.

Mike enrolled in Horticulture for his first Agriculture Class. He helped a Janesville teacher, who built a new home last summer, drew up landscape plans for this new home and this spring helped with the planting around the new home.

More difficulty was experienced in finding work experience programs for non farm boys in the Agricultural Engineering course. These boys must be eighteen before they could be considered for employment in most

places. However, Jeff was placed for the summer as a machinery setup man with a local implement dealer. Griff found summer work with his Dad, who has the Case dealership. Earl graduated in January and secured full time employment with a local lumber and building supply company. It was felt that the Ag Engineering course permitted actual work experience within the school situation. The class overhauled seven tractors, setup five new machines plus reconditioning several pieces of farm equipment and constructed many woodworking and welding projects. These were felt to be acceptable work experiences for many farm and non-farm boys because the work was done under a supervised learning situation.

CHAPTER V

SUMMARY

The primary purpose of the experimental curriculum in the Janesville school system was to develop and test a new structure for vocational agriculture. The general objectives were to develop a vocational agriculture program which would meet the needs of a wider range of high school students and to offer a flexible curriculum from which they could make their selections according to interests.

The pilot curriculum was developed around specific agricultural subjects which were one semester in length. Five subjects were planned each semester on a two year rotation basis. Thus, a total of twenty different subjects would be possible in a two year period. However, in the experimental program, Agricultural Survey and Agricultural Engineering were taught two semesters each year and were repeated every year instead of rotating as did all other subjects. Thus, over a two year period, the instructor would need to be prepared to teach a total of sixteen different one semester subjects.

Following an analysis of the first year of the pilot program, the following summary statements were made:

1. The new curriculum did not affect the total enrollment of the department as numbers remained about the same both years.

2. Students did not enroll in poultry and sheep courses in large enough numbers to justify teaching the subjects.

3. Nearly forty percent of the total departmental enrollment was made up from city and rural non farm students.

4. The curriculum attracted very few students of below average ability. Of the seventy-four students enrolled during the first semester and seventy students in the second semester, only nine students fell in the below average category.

5. Only two students of below average ability enrolled in agricultural engineering II and none were attracted to agricultural engineering I.

6. There were no students from the city or from the below average ability category enrolled in farm management.

7. Twelve students dropped agriculture at the end of the first semester but only two students withdrew because there was no second semester course which they wanted.

8. Eighteen of nineteen students who elected agriculture for the first time were from city or rural non farm homes.

9. Dairy science and horticulture were the two most popular subjects for students enrolling for the first time under the experimental curriculum.

10. Traditional supervised farming programs were carried by the majority of the students but about twenty-five students were placed on farms for experience or participated in supervised work experience programs.

11. No serious administrative difficulties were noted which would have lessened the effectiveness of the pilot curriculum.

CHAPTER VI

CONCLUSIONS & RECOMMENDATIONS

In terms of the limited evaluation made by the researchers, it could be said that the Janesville pilot curriculum in vocational agriculture accomplished many of the original objectives. Additional studies must be completed during the next few years in order to determine more accurately the impact of the specialization curriculum. It was noted that it would take more than one year to break tradition or some of the old concepts of eligibility for vocational agriculture. Several city and rural non farm boys expressed an interest in horticulture early in the year but did not enroll as they still felt agriculture was only for farm boys. One girl enrolled under the new curriculum and broke a long standing tradition that vocational agriculture was strictly for farm boys.

Perhaps one of the most significant features of the pilot program was the large percentage of city and rural non farm students who enrolled in vocational agriculture. The curriculum attracted a student who had not been reached in the past. In addition, the specialized curriculum did not attract the poorer student who in many instances, has been a difficult problem for vocational agriculture departments. Each agricultural subject course was designed as a quality program which dealt with agriculture as a science. The courses were not easy as evidenced by one half of those not continuing into the second semester failing, dropping from school or were dropped by the vocational agriculture instructor.

The agricultural subjects covered all aspects of the particular field and moved away from the traditional emphasis on production. Economics, marketing and some of the basic sciences within each subject were included as well as discussions concerning various occupational opportunities in each of the fields.

One of the basic limitations of the specialization curriculum was found to be the time needed for preparation by the instructor. In order to be prepared to teach the wide range of subjects offered, the instructor found it necessary to spend a great deal of additional time in preparation. Time has always been a limiting factor for the average instructor of vocational agriculture and with the added subject matter required under the specialization curriculum, some instructors might find the load too heavy. A possible solution to the time problem would be the addition of a second man within the department. The courses could be divided and each man could capitalize on his own subject matter interests and have time to adequately prepare his teaching material.

From general discussions with parents, school officials and community members, it was felt that the specialization curriculum in vocational agriculture offered the kind of program which was needed in the Janesville school district. On the basis of these and other evaluations, the experimental program will be continued in Janesville.

APPENDIX

TEXTBOOKS, REFERENCES AND BULLETINS
SPECIALIZATION CURRICULUM
JANESVILLE, WISCONSIN

Agricultural Survey I and II

Agriculture in our Lives. Science of Modern Agriculture; George P. Devoe; Interstate Printers and Publishers.
University of Wisconsin and U.S.D.A. Bulletins.

Dairy Science I and II

Modern Dairy Cattle Management; Richard F. Davis; Prentice-Hall.
Feeds and Feeding - Abridged; Morrison; Morrison Publishing Company.

Sheep Science I

Sheep Science - Kammlade. W. G.; Lippincott, New York.
Feeds and Feeding - Morrison.

Beef Science I

Beef Cattle Science - Ensminger, M. E.; Interstate, 3rd edition.
Feeds and Feeding - Morrison.

Swine Science I

Swine Science - Ensminger, M. E.; Interstate, 3rd edition.
Feeds and Feeding - Morrison.

Poultry Science I

Approved Practices in Poultry Production; Biddle and Juergenson - Interstate.
Feeds and Feeding - Morrison.

Soil Science I

Our Soils and Their Management; Donahue, Roy L.; Interstate.
Soil: Use and Improvement; Stallings, J. H.; Prentice-Hall.

Crop Science I

Crop Production; Delorit and Ahlgren; Prentice-Hall.

Horticulture I

Horticultural Science; Janick, Jules; W. H. Freeman and Company.
Fruit Growing; Schneider and Scarborough; Prentice-Hall.
Raising Vegetables; Ware, C. W. and W. P McCollum; Interstate.
Approved Practice in Beautifying the Home Grounds;;Hoover, N. K.; Interstate.

Conservation I

Soils - Uses and Improvement; Stallings; Prentice-Hall.
Our Natural Resources; McNall, P. E.; Interstate.

Agricultural Engineering I and II

Farm Mechanics Text and Handbook; Phipps; Interstate.
Farm Tractor Maintenance; Brown and Morrison; Interstate.
Wiring Simplified; Richter; Park Publishing Company.

Farm Management I

Profitable Farm Management; Bryant and Hamilton; Prentice-Hall.
The Farm Management Handbook; Mortenson and Hall; Interstate.
Law and the Farmer; Beuscher, Jacob H.; Springer.

Agricultural Economics I

No text selected.

Additional Materials

University of Wisconsin, U.S.D.A. and Commercial Bulletins were used in all courses as they were appropriate.
The Ag. Department subscribed to twenty issues of Successful Farming Magazine each month.
In addition, the department subscribed to all major farm magazines. The magazines were used to provide current information in all subject matter areas.

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New Dimensions in Public School Education in Agriculture. Conference Report, University of Illinois, Urbana. June 1962. Interstate Printers and Publishers, Inc. Danville, Illinois.

Report of a National Seminar on Agricultural Education. A Design for the Future. The National Center for Advanced Study and Research in Agricultural Education, July 22 to August 2, 1963. The Ohio State University, Columbus, Ohio.

Report of Second Research Coordination Conference on Agricultural Occupations. National Center for Advanced Study and Research in Agricultural Education. The Ohio State University, Columbus, Ohio. January 1964.

U. S. Congress, Public Law 88-210. 88th Congress, H. R. 4955. December 18, 1964.